

EU policy for application of ICT

(Juvenile justice in Spain: current regulation and projects underway)

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La liberalización de las telecomunicaciones europeas, iniciadas hace ya 10 años y cuya finalización está próxima, ha puesto las bases para éxitos tales como el "boom" de la telefonía móvil y el surgimiento del comercio electrónico. Para consolidar estos logros, se deben reforzar la investigación y desarrollo en Europa, se debe llegar con prontitud a un acuerdo sobre la siguiente generación de comunicaciones móviles y se debe crear, con ámbito global, un marco de condiciones para el comercio electrónico, como, por ejemplo, las normas de codificación

Palabras Clave: Telecomunicación. Liberalización. Investigación. Comercio Electrónico. Codificación. Carta Internacional.

Orain dela 10 urte hasi eta laster amaituko den Europako telekomunikazioen liberalizazioak hainbat ekimen arrakastatsuren oinarriak ezarri ditu, hala nola telefonía mugikorraren 3boom-a2 eta merkataritza elektrikoaren sorrera. Lorpen horiek sendotzeko ikerketa eta garapena indartu behar dira Europan, komunikazio mugikorren ondoko belaunaldiaz laster akordio batera iritsi behar da eta inguru orokorrari dagokionez, merkataritza elektronikorako baldintza esparrua sortu beharra dago, hala nola kodetze arauak.

Giltz-Hitzak: Telekomunikazioa. Liberalizazioa. Ikerketa. Merkataritza elektronikoa. Kodetzea. Nazioarteko Karta.

La libéralisation des télécommunications européennes, initiées il y a 10 ans déjà et dont le terme approche, a installé les bases pour des succès tels que le "boom" du téléphone portable et l'apparition du commerce électronique. Pour consolider ces réussites, il est nécessaire de renforcer la recherche et le développement en Europe, il faut arriver rapidement à un accord sur la génération de communications portables suivante et il faut créer, avec un esprit global, un cadre de conditions pour le commerce électronique comme, par exemple, les normes de codification.

Mots Clés: Télécommunication. Libéralisation. Recherche. Commerce électronique. Codification. Charte internationale.

Today, the telecoms sector, and the communications sector in general, is a very vibrant one in terms of investment and growth. All economic indicators suggest that this expansion will gain further momentum in the future, thus giving rise to important growth opportunities for companies that respond to market demands. This, however, depends upon the existence of favourable rules of the game. Hence the importance of the liberalisation of the telecoms sector in Europe.

It is only 10 years since the Commission's 1987 Green Paper set out the framework for Europe's telecoms policy. Back in 1987, the telecoms sector was — and still largely is — fragmented along national lines with each national operator enjoying a monopolistic situation. The aim was thus to gradually create a single European market for telecoms products and services. This goal is still valid today.

The Commission undertook to convince all Member States that a fully liberalised telecoms market was needed. Why? Simply because the monopolistic situation which was once required to bring telephone lines to all citizens is no longer justified in the new technological environment. Telecoms are no longer associated with plain old telephones: they encompass faxes, cell phones, pagers, video-conferencing, on-line services, the Internet, fibre optics, satellites and arcane acronyms such as ATM, ADSL or UMTS. Monopolies are not longer suited to bring the benefits of these technological developments to society.

This liberalisation process is to culminate in less than two months with full competition in services and infrastructure in the EU. This will ensure fair and effective competition, thus securing that users across Europe reap the benefits of competition in the shape of better quality and lower tariffs, as well as provide for economies of scope and scale comparable to those enjoyed in the US.

In fact, competition already exist in some of the fastest-growing segments of the telecoms market, in particular mobile telephony, corporate communications and alternative networks.

Member States authorities have wasted no time. Some countries have of course run ahead of the EU timetable (*examples: UK, Denmark, the Netherlands, Finland, Sweden*). But the positive effects of liberalisation are also visible in the countries that stick to the EU agenda, for instance with companies deploying their own networks (*examples: MFS, Colt and Espirit Telecom are installing high-speed networks in major European cities*).

The history of the EU telecoms policy doesn't end in 1998. In many ways, 1998 is only the beginning. We will continue to create favourable conditions for market-led growth in the telecoms sector as well as the communications sector at large.

Mobile Telephony

A growing number of people in Europe and in the rest of the world are enjoying affordable, high-quality mobile services based on the pan-European GSM system, which has become a *de facto* global standard used in over 100 countries. While GSM is state-of-the-art technology for mobile voice and data communications, it does not sustain high-speed access to interactive multimedia services or the Internet, which carries an increasing volume of graphics, still pictures and video.

Yet the combination of the rapid growth of the Internet and the world-wide success of mobile communications let us anti-

cipate the rapid emergence of a strong demand for broadband multimedia communications over wireless terminals. The challenge for Europe now is to build upon the success of GSM to swiftly develop the next generation mobile system that caters for the need for multimedia mobility, thus turning it into a mass market. This is what UMTS, the Universal Mobile Telecoms System, is all about.

Like GSM, a key requirement of the success of UMTS is to find unanimity for the standard amongst Member States and European telecoms operators and manufacturers. The Commission has therefore created the UMTS Forum, which aims to elaborate a common vision and strategy; the UMTS Forum is comprised of about 100 members, including some US and Japanese players.

Another key issue is whether there is a need for further specific regulation for UMTS, considering that the mobile sector was liberalised in 1996 and that the EU's new liberalised telecoms environment will be fully in place in just three months. To find an answer to this question, the Commission issued last May a Communication on the further development of mobile and wireless communications. The answer of the mobile industry and European public authorities has been unanimous: yes, urgent work is needed at EU level to set in place stable regulatory conditions for UMTS, in particular as regards an early license indication and the assurance that adequate radio frequency spectrum will be available in due time.

I do not have time to go into the full detail of the policy line we will adopt. But I wish to strongly insist on one crucial element of the future success of Europe's mobile industry: pan-European roaming. From a user's perspective, it is an obvious requirement that the roaming functionality enjoyed throughout Europe for GSM-based voice and data communications is embodied into UMTS for new multimedia services and Internet access; but what we seem to forget sometimes is that GSM's Europe-wide roaming functionality is seen by operators around the world as the strongest point behind its global success.

Today, European manufacturers advocate different incompatible technological solutions for the future radio access network. This risks undermining the credibility and attractiveness of the European solution at global level. However, I believe that ETSI is able to meet this challenge and deliver a standard for UMTS critical interfaces in the course of next year. It will be based on a large consensus amongst industry players and follow an open and comprehensive debate on the best solution for Europe's domestic and global interests.

Research and Development

ISTs are still in rapid evolution: it will not be possible to realise the full potential of the information society in Europe with only today's technologies and applications. Continuous efforts are therefore required, in research and technological development (R&D). In response to the needs of the next millennium, the Fifth Framework Programme will introduce a single and integrated IST Programme.

The underlying importance of R&D in IST is recognised by our main competitors. The USA proposes to increase next year's budget for IST by 10% in the context of an overall increase of 2%. Japan proposes to increase IST funding by 30%, following on from an 18% increase this year (in the context of an overall increase of 8%). In the Fifth Framework Programme, the Commission proposal allocates a 3.925 BECU budget for IST equivalent to an 8% increase over four years (effectively

keeping the budget stable), in the context of an overall increase in the non-nuclear budget of 26%. The Commission's proposal for the IST Programme was extremely well received by the Council of Ministers, the European Parliament, industry and the other sector's actors.

Absolute funding levels are not the only factor which influences the impact of research spending. There must be an appropriate range of research activities supported in Europe. The case for supporting IST research can be put very simply: ISTs are the driving force behind a transformation of the economic system, creating new products and markets and transforming existing industries through the introduction of more competitive and flexible production systems and better products. These technologies are producing a "paradigm shift" in our economies and will be a greater source of new employment than any other technology or area of research.

Furthermore, the successful implementation of the information society in Europe also depends on its utility and acceptance by European citizens. The IST Programme therefore aims to realise the benefits of the information society in Europe both by accelerating its emergence and by ensuring that the needs of individuals and enterprises are met.

The rationale and objectives necessitate a single integrated programme which reflects the convergence of technologies and media and industries and markets and the increasing significance of content, and the need to integrate R&D and take-up actions. To this effect, the IST Programme consists of a set of five research activities which complement each other and which are derived by grouping together the technologies, systems, applications and services and the R&D and take-up actions with the greatest affinity or interdependence.

Reflecting the global nature of the information society, international co-operation will play a major role in the development and take-up of information society technologies. This needs to be reflected in the participation in and operation of the IST Programme and in the linkages between the IST Programme and the horizontal programme on '*Confirming the international role of European research*' addressing support for organisations from third countries.

The EU contribution to European R&D only represents about 4% of total investment, the largest part coming from industry itself. A substantial increase in European RTD investment therefore requires a longer-term view in the private-sector and a greater commitment to new product and service development. A stable economic and monetary environment is essential to this, to which the introduction of the EURO will contribute.

Recent trends in the USA and - although at a slower pace - in Europe, clearly indicate that ISTs are becoming a key driver of employment creation, particularly through the setting up of new start-ups in high technology. To further amplify the positive impact of ISTs on employment, it is necessary to put greater emphasis on the usability of IST, interoperability and standardisation to protect investments, encouraging rapid take-up by SMEs, notably of electronic commerce, and encouraging the effective integration of IST technology into new, more flexible ways of working.

Electronic Commerce

Electronic commerce in itself is nothing new. But until recently, it was no more than a closed club of business-to-

business activity based upon proprietary networks. With the explosion of the Internet, it is now becoming a complex web of commercial activities transacted on a global scale between an ever increasing number of participants, corporate and individual.

Electronic commerce covers mainly two types of activities: indirect e-commerce (the electronic ordering of tangible goods) and direct e-commerce (the on-line ordering, payment and delivery of tangible goods). E-commerce is still an emerging market but it is estimated that it will be worth 200 BECU by the year 2000. This will entail considerable structural changes in the organisations of businesses and on the job market, and in turn in the educational and training system. So far, the USA have taken the leadership in seizing the new market opportunities offered by e-commerce. Japan and the Asia-Pacific region are rapidly catching up. Some Member State have already caught up with the USA (Finland, the Netherlands), but much remains to be done.

Electronic Commerce: Security and Trust

The realisation of the full growth potential of electronic commerce is hampered by a lack of security: messages can be intercepted and manipulated, the legal value of electronic documents can be questioned, personal data can be collected illicitly, fraud is on the rise, etc. Cryptographic technologies are the most efficient remedy to this situation, in particular digital signatures and encryption.

Divergent legal and technical approaches to cryptography at national level would undermine the Internal Market, both as regards the free movement of cryptographic goods and services and the development of electronic commerce activities. A common framework for digital signatures and encryption is therefore urgently needed at EU level.

Digital signatures: some Member States have or are preparing regulation on digital signatures. But divergent legal and technical approaches and the absence of regulation in other Member States could create obstacles in the Internal Market. The goal of Community action must aim to encourage Member States to take action to build trust in digital signatures while catering for the need of a EU-wide compatible framework:

Common requirements for certification authorities (CAs): common requirements are needed regarding the establishment and operation of CAs, while allowing for the co-existence of licensed and non-licensed CAs. Common classes of certificates could also be needed as well as common evaluation criteria, procedures and standards for digital signature products.

Legal recognition: the Commission will finish to assess the need to cater for the recognition of digital signatures at Community level, taking into account national provisions hindering their legal recognition, in particular with respect to legal form requirements and the validity of digital signatures in legal proceedings. Proposals should rapidly be submitted to justice ministers.

International cooperation: where appropriate, action must be taken at global level in a bilateral and multilateral context (UNCITRAL, OECD, WTO) to remove obstacles and create a compatible framework for electronic commerce, in particular with respect to common technical standards and the mutual recognition of certificates.

Electronic Commerce: The international dimension

Communication is a global business. International communications traffic has grown at an astonishing speed over the last 20 years with an average yearly increase in international voice telephony of 15%. More recently, mobile communications based on digital technologies have contributed to cross-border user mobility, especially with the European GSM standard, which is used by more than 200 operators in over 55 countries, serving a good 55 million users world-wide. Global satellite networks such as Iridium, Globalstar and Odyssey are soon going to complement the offer of global phone services, thus enabling truly universal mobility.

The explosive growth of the Internet and its its graphic interface, the World Wide Web, which currently claims over 80 million users worldwide, are not only a major factor in global communications, they are leading the way towards global multimedia communications and online commercial applications. Although global communications are expanding, the breakthrough to a truly global networked economy will require a certain consistency in rules, technical solutions and business practices at a global level. The emerging global networked economy is in the process of creating new needs which are bringing the rules of the communications and commercial worlds together and exposing areas which are not fully covered by these established frameworks.

The technical possibilities of networks like the Internet are already beginning to put legal structures to the test in various fields of existing law, such as intellectual property and data protection and at the same time expose differences in national laws. In the absence of legal certainty, it will be difficult in particular for the mass user (i.e. individual consumers, small and medium-sized companies) to develop adequate levels of trust and confidence for the networked economy to flourish.

In the light of the global implications of many of the policy issues raised by the development of communications, the removal of bottlenecks should be implemented in a coordinated way at international level - preferably through multilateral frameworks. These issues are already beginning to prompt

national and regional responses and are bringing into play a growing constellation of international organisations and bodies (e.g. WTO, ITU, WIPO, OECD, The Internet Society). We at the European Commission are also developing the European Union's policies in this field. In April 1997, we launched our "European Electronic Commerce Initiative", which was followed by the organisation of a Ministerial Conference in Bonn in July. We have also recently presented our ideas on encryption and digital signatures, which are vital for ensuring trust and confidence in electronic communications. However, in this context, it is important that national, regional and international frameworks are coordinated.

Though electronic communications can flow around them, potential barriers created by incompatible national rules or outdated regulation, are likely to hinder the growth of global communications and on-line commerce, and risk putting future jobs and economic growth at stake. This leads to the question, how should international co-operation be developed to remove barriers to the development of this economy?

Already, organisations at intergovernmental, private sector and user levels have been mobilised into working towards solutions within a variety of formal and cooperative frameworks. A succession of conferences and events involving governments and private sector representatives have been held. In some cases, these have given rise to partly joint declarations or multi-lateral agreements on general policy guidelines or principles for the global networked economy as well as position statements by various industry groups. As a result, a basis for international consensus on some issues already exists and the need for a stable reference point is becoming overdue.

Improved coordination of the international agenda could help to avoid the emergence of inconsistencies, duplication and overlaps, as well as fill gaps in existing international frameworks. This could be achieved by agreeing to specifically target key bottlenecks and by promoting a streamlined consensus-building process involving experts at an international level and with strong private sector and user participation.